

MEMORANDUM OF UNDERSTANDING  
BETWEEN  
THE DEPARTMENT OF DEFENSE  
OF THE UNITED STATES OF AMERICA  
AND  
THE DEPARTMENT OF DEFENCE  
OF AUSTRALIA  
FOR THE  
COOPERATIVE DEVELOPMENT, PRODUCTION, AND SUPPORT OF THE COMBAT  
CONTROL SYSTEM AN/BYG-1 TACTICAL SUBSYSTEM

Certified to be a true copy:



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## INTRODUCTION

The Department of Defense of the United States of America (U.S. DoD) and the Department of Defence of Australia (Australian DoD), hereinafter referred to as the "Participants":

Recognizing the Exchange of Notes Constituting an Agreement between the Government of the United States of America and the Government of Australia Concerning Certain Mutual Defence Commitments done at Sydney on 1 December 1995 (the Chapeau Agreement) will apply to this Memorandum of Understanding (MOU);

Having a common interest in defense;

Recognizing the intent of the Statement of Principles for Enhanced Cooperation between the United States Navy and the Royal Australian Navy in matters relating to Submarines dated 10 September 2001 to facilitate defense cooperation activities;

Recognizing the advantages in mutual cooperation in the areas of tactical development, system employment and operation implementation;

Recognizing that the costs and responsibilities set out in this MOU represent an equitable sharing between the Participants of the costs and responsibilities of the Project;

Recognizing the benefits to be obtained from standardization, rationalization, and interoperability of military equipments;

Desiring to improve their mutual conventional defense capabilities through the application of emerging technology;

Having a mutual need for the continuing development, production, and support of the Combat Control System (CCS) AN/BYG-1 Tactical Subsystem (formerly called CCS MK2 Tactical Subsystem) to satisfy common operational requirements;

Having independently and jointly conducted studies, research, exploratory development, and testing of the applications of various technologies to the AN/BYG-1 Tactical Subsystem; and

Recognizing the benefits of cooperation for continuing development, production, and support of the AN/BYG-1 Tactical Subsystem,

Have reached the following understandings:

SECTION I  
DEFINITIONS

The Participants have jointly decided upon the following definitions for provisions used in this MOU:

Advanced Processing Build Process (APB Process)	The purpose of the APB Process is to produce hardware independent software builds to create or improve functionality for transition to naval combat systems programs. The software enhancements are produced via an evolutionary process.
Advanced Systems & Technology Office (ASTO)	The United States Department of the Navy (USN) organization that manages the technology improvements from the various sources as they transit through the APB Process.
Classification Guide	A document that lists the security classification of each document, system, subsystem and component either provided or created.
Classified Information	Official information that requires protection in the interests of national security of either of the Participants and is so designated by the application of a security classification marking. This information may be in oral, visual, magnetic or documentary form or in the form of equipment or technology.
Contract	Any mutually binding legal relationship under national laws that obligates a Contractor to furnish supplies or services, and obligates one or both of the Participants to pay for them.
Contracting	The obtaining of supplies or services by Contract from sources outside the government organizations of the Participants. Contracting includes description (but not determination) of supplies and services required, solicitation and selection of sources, preparation and award of Contracts, and

all phases of Contract administration.

Contracting Agency	The entity within the government organization of a Participant that has authority to enter into, administer, and/or terminate Contracts.
Contracting Officer	A person representing a Contracting Agency of a Participant who has the authority to enter into, administer, and/or terminate Contracts.
Contractor	Any entity awarded a Contract by a Participant's Contracting Agency.
Contractor Support Personnel	Persons specifically identified in support Contracts who provide administrative, managerial, scientific, or technical support services to a Participant under a Contract with that Participant that prohibits using information received under the Contract for any other purpose than those authorized under this MOU.
Controlled Unclassified Information	Unclassified information to which access or distribution limitations have been applied in accordance with applicable national laws or regulations. Whether the information is provided or generated under this MOU, the information will be marked to identify its "in confidence" nature. It could include information that has been declassified, but remains controlled. U.S. export controlled technical data will be marked as "International Traffic in Arms Regulations (ITAR) - Controlled". Australian export controlled information will be marked as "Australian Export Controlled".
Cooperative Project Personnel (CPP)	Australian DoD military members or civilian employees assigned to the AN/BYG-1 program office or U.S. DoD field activities, and U.S. DoD military members and civilian employees assigned to Australian DoD field activities, who perform managerial, engineering, technical, administrative, Contracting,

	logistics, financial, planning or other functions in furtherance of the Project.
Defense Purposes	Manufacture or other use in any part of the world by or for the armed forces of either Participant.
Designated Security Authority (DSA)	The security office approved by national authorities to be responsible for the security aspects of this MOU.
Financial Costs	Project costs met with monetary contributions.
Financial Cost Ceiling	The maximum amount of Financial Costs which will be dedicated to the Project.
Financial Management Procedures Document (FMPD)	A document that describes the estimated schedule, handling, and auditing of monetary contributions for the Project in which one Participant contracts on behalf of the other Participant or on behalf of both Participants to fulfil the objectives of the Project.
Initial Operational Capability (IOC)	That date when the first unit or units of a system are fielded, have completed testing, and are determined to be ready for deployment and operational field support.
Intellectual Property Rights	Intellectual Property rights means all copyright and neighboring rights, all rights in relation to inventions (including patent rights), registered and unregistered trademarks (including service marks), registered and unregistered designs, confidential information (including trade secrets and know how), circuit layouts and all other rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields.
Joint Project Office (JPO)	The management organization with representatives from both Participants to implement the objectives of this

MOU.

Non-financial Costs Project costs met with non-monetary contributions.

Participant A signatory to this MOU represented by its military and civilian DoD personnel. Contractors and Contractor Support Personnel will not be representatives of a Participant under this MOU.

Patent Legal protection of the right to exclude others from making, using, importing, or selling an invention. The term refers to any and all Patents including, but not limited to, Provisional and Non-Provisional Patents of implementation, improvement or addition, petty Patents, utility models, appearance design Patents, registered designs, and inventor certificates or like statutory protection as well as divisions, reissues, continuations, renewals, and extensions of any of these.

Peer Review The Peer Review forum is a working group where APB candidate technologies, ideas, or systems are evaluated. The Peer Review ensures that submarine community inputs are voiced and fairly evaluated ensuring delivery of high quality products.

Project The U.S. DoD-Australian DoD cooperative engineering and manufacturing project to develop, produce, and support the AN/BYG-1 Tactical Subsystem as described in this MOU.

Project Background Information Information not generated in the performance of the Project.

Project Equipment Any material, equipment, end item, subsystem, component, special tooling or test equipment acquired or provided for use in the Project.

Project Foreground Information Information generated in the performance of the Project.

Project Information	Any information provided to, generated in, or used in this Project regardless of form or type, including, but not limited to, that of a scientific, technical, business, or financial nature, and also including computer software (including source code), photographs, reports, manuals, threat data, experimental data, test data, designs, specifications, processes, techniques, inventions, drawings, technical writings, sound recordings, pictorial representations, and other graphical presentations, whether in magnetic tape, computer memory, or any other form and whether or not subject to Intellectual Property rights.
Project Invention	Any invention or discovery formulated or made (conceived or first actually reduced to practice) in the course of work performed under the Project. For the purposes of this definition, the term first actually reduced to practice means the first demonstration, sufficient to establish to one skilled in the art to which the invention pertains, of the operability of an invention for its intended purpose and in its intended environment.
Project Management Plan (PMP)	A plan developed by the Project Manager (PM) that provides a Description of the Project's Delivery requirements and Milestones.
Project Security Instruction (PSI)	A document that harmonizes, clarifies, and articulates the domestic security policies and practices of the Participants as they apply to the Project.
Project Test and Evaluation Master Plan (PTEMP)	A document to be developed by the PM to delineate Project test requirements, goals, and schedules to meet the national requirements of both Participants.

Special Tooling	Jigs, dies, fixtures, molds, patterns, tapes, gauges, other equipment and manufacturing aids, and all components of these items, which are of such a specialized nature that without substantial modification or alteration their use is limited to the development or production of particular supplies or parts thereof or to the performance of particular services and excluding material, special test equipment, facilities (except foundations and similar improvements necessary for installing special tooling) general or special machine tools or similar capital items.
Submarine Tactical Requirements Group (STRG)	The STRG is a forum of senior fleet-experienced submarine officers responsible for defining and prioritizing Submarine Force tactical requirements, defining modernization requirements for future acquisitions, and establishing the target baseline for functionality and capability improvements.
Tactical Control Development Working Group (TCDWG)	The TCDWG is responsible for the overall coordination of the Tactical Control APB Process.
Tactical Control Support Group (TCSG)	The TCSG serves as the primary interface between the requirements group and the operational forces of both Participants. The TCSG's primary objective is to represent the interest of the operational forces regarding APB functionality and process execution.
Technical Insertions (TI)	Technical Insertions modernize existing system hardware, replace obsolete equipment, and improve existing systems to accommodate the greater demands brought about by APB driven software changes.
Third Party	A government other than the government of a Participant and any person or other entity whose government is not the government of a Participant.

## SECTION II

### OBJECTIVES

2.1. The objectives of this Project are:

- 2.1.1. To design, develop, and test through the Advanced Processing Build (APB) and Technical Insertions (TI) Processes AN/BYG-1 Tactical Subsystem upgrades meeting the requirements of the Participants.
- 2.1.2. To produce both AN/BYG-1 Tactical Subsystem TI upgrades and APB software upgrades, install and test them in the AN/BYG-1 Tactical Subsystems on the Participants' submarines.
- 2.1.3. To provide in-service support of the Participants' AN/BYG-1 Tactical Subsystems including maintenance builds and upgrading of the Participants' maintenance and training infrastructures.
- 2.1.4. To maintain configuration control between the U.S. DoD and the Australian DoD AN/BYG-1 Tactical Subsystems through Australian DoD participation on the AN/BYG-1 Configuration Control Board.
- 2.1.5. To identify and implement changes that will maintain or improve the military effectiveness, safety, and availability of the AN/BYG-1 Tactical Subsystem.
- 2.1.6. To accommodate and support, to the maximum extent possible, any future Australian DoD and/or U.S. DoD requirements for logistics/resupply, support, configuration control, operation, Combat Systems research and development, future upgrades, and mutual use of facilities for the AN/BYG-1 Tactical Subsystem.

## SECTION III

### SCOPE OF WORK

3.1. The overall work (which is described in greater detail in the Project Management Plan (PMP)) to be performed under this MOU includes:

- 3.1.1. Development of AN/BYG-1 computer software upgrades through the APB Process and hardware modifications through planned TIs to provide improved combat system effectiveness in an increasingly difficult modern diesel electric submarine threat environment. It will include hardware modifications and upgrades through TIs that will enable the AN/BYG-1 to operate in the harsh littoral environment with future generation software and technology enhancements requiring greater processing capability brought about through the APB Process.
- 3.1.2. Testing of the hardware and software upgrades at the component, subsystem, and system level. Following an APB software upgrade or TI installation, extensive at-sea testing will be conducted at both U.S. DoD and Australian DoD ranges and littoral environments. Testing will be performed in accordance with the Project Test and Evaluation Master Plan (PTEMP) and Annex D (Project Overview).
- 3.1.3. Preparation of detailed specifications, requirements, and other information to enable the Participants to maintain hardware and computer software configuration management and to track performance improvements against known threats. Hardware and computer software configuration management will be performed in accordance with the configuration management plan and software management plan.
- 3.1.4. Production and installation, as necessary, of hardware modifications through TIs to upgrade U.S. DoD and Australian DoD submarines to the latest AN/BYG-1 Tactical Subsystem. The procurement activities initiated by the Australian DoD to establish the initial AN/BYG-1 baseline for the COLLINS Class Submarine will be conducted in accordance with the PMP and PTEMP.

Production of hardware and installation, to the extent USN or RAN requirements demand, in the current submarine inventory configured with the AN/BYG-1 Tactical Subsystem. Production will be performed in accordance with Annex C (Planned Procurement (Order) Quantities and Estimated Funding Schedule) and Annex D (Project Overview).

- 3.1.5. Development, establishment, modification and maintenance of the support and training infrastructures of both Participants.
- 3.1.6. Supporting logistics and sparing requirements as well as sharing of indigenous maintenance capabilities.
- 3.1.7. Sharing Project Information relating to the development, production, and support of the AN/BYG-1 Tactical Subsystem and related support and training infrastructures.